REMARKS

Claims 36-71 are pending in the present application. In the Office Action mailed August 6, 2004, the Examiner withdrew claims 67-71 from consideration based on the provisional election with traverse provided by the undersigned on August 3, 2004. Responsive thereto, the Examiner limited examination to claims 36-66 and further rejected claims 36-46 under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential structural imaging means to achieve required function. The Examiner next rejected claims 47-60 under 35 U.S.C. §112, second paragraph, as being incomplete for omitting essential means and functional steps. Claims 36 and 38 were rejected under 35 U.S.C. §102(b) as being anticipated by Glover et al. (USP 5,200,700). Claims 61-63 were rejected under 35 U.S.C. §102(e) as being anticipated by Mistretta (USP 6,671,536). Claims 47 and 56-60 were rejected under 35 U.S.C. §103(a) as being unpatentable over Glover et al. in view of Mistretta. Claims 43 and 45 were rejected under 35 U.S.C. §103(a) as being unpatentable over Glover et al. as applied to claim 36 and further in view of Mistretta. Applicant appreciates the Examiner's indication that claims 64-66 are allowable.

REQUEST FOR REJOINDER

Before responding substantively to the Examiner's rejections, Applicant requests rejoinder of claims 67-71. The Examiner's basis of restriction appears to lie in the preamblic differences between claims 37-66 and 67-71 as the subject matter of claims 67-71 is neither independent or distinct from the subject matter of 37-66 nor has the Examiner identified a reason for insisting upon restriction.

Specifically, during the telephone interview on August 3, 2004, the Examiner stated that the basis for restricting claims 67-71 from consideration in the present application stemmed from claims 67-71 being directed to a "computer program" and, as such, were distinct from a method and an MR apparatus. However, MPEP§806.01 states that "upon questions of ...restriction, it is the claimed subject matter that is considered and such claimed subject matter must be compared in order to determine the question of distinctness or independence." Accordingly, the subject matter of that which is being claimed must be examined when determining the appropriateness of restriction - not just the preamble of the claims.

Applicant agrees that claims 67-71 call for a "computer program" and that claims 37-66 do not. Simply claiming that the invention may be found in a computer program in and of itself cannot support a restriction requirement. "This is because the claims are but different definitions of the same disclosed subject matter, varying in breadth or scope of definition." MPEP§806.03. As such, when making a requirement for restriction, the subject matter of the claims must be considered, not simply the preambles.

When considering the subject matter of claims 36-71, it is readily apparent that the Examiner's restriction requirement cannot be sustained and that rejoinder is required. This is remarkably apparent when comparing the subject matter of claims 61 and 67. For purposes of illustration, claims 61 and 67 relate to one another as combination and subcombination, respectively. Upon consideration of claim 61, it is clear that the subcombination is essential to the combination. That is, claim 61 is not patentable without the details of the subcombination.

Specifically, claim 61 calls for an MR apparatus. The claim, as written, calls for elements of an MRI system and a computer programmed to execute particular acts. Claim 67 calls for a computer program with instructions that cause a computer to likewise execute particular acts. The acts achieved by the computer of claim 61 are similar to the set of instructions to be executed by a computer in claim 67. Specifically, both claims call for movement of a table, the acquisition of MR data, and correction for distortion in the acquired MR data. As such, the Examiner has not correctly identified distinct or independent subject matter between claims 61 and 66. Moreover, claim 61 is not patentable without the particulars of the subcombination (claim 67) because the MRI system set forth is common to many MR apparatus. Accordingly, when the combination requires the particulars of the subcombination for patentability, restriction between the claims is *never* appropriate. *See* MPEP§806.05.

Additionally, to support a restriction requirement, the Examiner must also show reasons for insisting upon the restriction. As set forth above, the particulars of claim 61 and claim 67 are such that any search of claim 61 would necessarily include a search of the subject matter of claim 67. As such, notwithstanding the lack of distinctness between the claimed subject matter, there are no valid reasons for insisting upon restriction when comparing that called for in claims 61 and 67. As the Examiner has grouped claim 61 with

claims 36 and 47, the basis of rejoinder of claims 61 and 67 necessarily extends to claims 36 and 47. As such, Applicant requests rejoinder of claims 36-71.

REMARKS REGARDING REJECTION OF CLAIMS 36-66

Claims 36-46 were rejected under 35 U.S.C. §112, second paragraph, as allegedly omitting essential elements. Applicant has amended claim 36. Further, as explained below, only the Applicant can identify "essential" elements, not the Examiner. See MPEP §2172.01. Applicant believes that claim 36 and those depending therefrom satisfy the statutory requirements of Title 35 of the U.S. Code.

Claims 47-60 were also rejected under 35 U.S.C. §112, second paragraph, "for omitting essential means and functional steps." Applicant disagrees. Claim 47 is directed to a method of correcting gradient non-linearities in moving table MR imaging. Claim 47 identifies those elements or features of the method that define it over the known art. MPEP §2172.01 states that "a claim which omits matter ***disclosed*** to be essential to the invention ***as described in the Specification or in other statements of record*** may be rejected...". Further, §2172.01 states that "such essential matter ***described by the Applicant(s) as necessary to practice the invention.***" Since Applicant has not identified any such elements as essential, the Examiner's rejection must be withdrawn. Further, MPEP §2164.08(c) states that "features which are merely preferred are not to be considered critical." "Broad language in the disclosure, including the Abstract, omitting an allegedly critical feature, tends to rebut the argument of criticality." MPEP §2164.08(c). The Examiner's attention is directed to **TZ note to Mark: insert specification language or section, such as Abstract, or summary of the Claims that omits this alleged critical/essential material. If it doesn't exist, cite to the Examiner's own statement in the previous Reasons for Allowance and let's discuss further.** The elements individually set forth in claim 47 provide a clear measure of what Applicant regards as the invention and thus comport with the requirement of 35 U.S.C. §112, second paragraph. Withdrawal of the rejection of claims 47-60 is therefore requested.

Regarding the Examiner's suggestion that the term "the" replace the term "a" before "presence" in claims 36 and 47, Applicant respectfully reminds the Examiner that the term "a" is needed in both claims since absent "a", the phrase "the presence" would lack antecedent basis. Simply put, "a" is used before the first occurrence of "presence" in each

claim and is believed consistent with statutory provisions and accepted practice before the USPTO.

Claims 36 and 38 stand rejected under 35 U.S.C. §102(b) as being anticipated by Glover et al. Applicant has amended claim 36 to clarify that correction is carried out for warping in the acquired image data resulting from gradient non-linearities present during data acquisition. Glover et al. makes no such teaching.

Glover et al. is directed to the reduction of NMR artifacts caused by time varying linear geometric distortion as a result of physiological motion not gradient non-linearities. More particularly, Glover et al. teaches a method "for controlling image artifacts caused by linear geometric changes in the subject due, for example, to subject respiration in the course of an NMR scan." Col. 1, lns. 9-12. In the Summary of the Invention section of '700, Glover et al. further states that "the present invention relates to an improved method and system for retrospectively correcting NMR data acquired during a scan for errors caused by the view-to-view geometric change in the structures being imaged." Col. 3, lns. 30-34. In one particular example, Glover et al. identifies that "much of the material being imaged is in motion due to the subject's breathing." Col. 6, lns. 24-25. In this regard, Glover et al. teaches a correction technique to account for subject-induced geometric changes rather than gradient non-linearities. As such, Glover et al. fails to teach or suggest that called for in claims 36 and 38.

Additionally, the Examiner is reminded that in the Notice of Allowance for USP 6,707,300, the Examiner stated "the prior art considered does not disclose or fairly suggest correcting warping in an image caused by gradient non-linearity where the image data is acquired while the imaging subject is in motion". Notice of Allowability, 11/17/2003, USP 6,707,300, p. 2. As such, the Examiner has previously indicated that the subject matter called for in claim 36 to be patentable over Glover et al.

Claims 61-63 stand rejected under 35 U.S.C. §102(e) as being anticipated by Mistretta.

Even though Applicant does not believe that Mistretta is valid prior art, as set forth below, the claims do define over Mistretta. MPEP §2121 mandates that a general level of operability is required to make a *prima facie* case of anticipation. While a reference is presumed operable, this presumption can be rebutted upon a providing of facts establishing the inoperability of the reference. Specifically, "[o]nce such a reference is found, the burden

is on the applicant to provide facts rebutting the presumption of operability". MPEP §2121. Accordingly, Applicant submits the remarks below setting forth the inoperability of Mistretta relative to the claimed invention.

Mistretta teaches phase corrections "to offset errors caused by non-linearities in the imaging gradient fields." Col. 12, lns. 55-57. Mistretta further teaches that this phase correction can be achieved by "performing a one dimensional Fourier transformation of each projection view to obtain the spatial distribution of spin signals along the projection readout gradient axis". Col. 12, lns. 57-60. Notwithstanding the explicit statements of Mistretta, one skilled in the art would find the process described by Mistretta as unworkable.

One skilled in the art will readily appreciate that corrections for gradient non-linearities **cannot** be expressed as "phase corrections". Rather, the image that is generated must be stretched or compressed in a manner which varies across the image; i.e. the transformation is not a simple linear shift, equivalent to a phase correction in transform space. Specifically, one skilled in the art would readily recognize that a pure cylindrical object, centered about iso-center and oriented along the patient table, gets warped into a barrel-like object by the gradient non-linearity, and it is this warping which must be corrected to restore the actual object shape. Mistretta fails to teach or suggest such "warping" correction.

Additionally, Mistretta is not valid prior art. Applicant submits herewith a Declaration Under 37 C.F.R. §1.131. Mistretta is, therefore, disqualified as prior art.

Claims 43, 45, and 56-60 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Glover et al. and further in view of Mistretta. While Applicant believes that the combination of references relied upon by the Examiner fails to teach or suggest that called for in claims 43, 45, and 56-60, Applicant has, as set forth above, outlined the inoperability of Mistretta and, further, disqualified Mistretta as prior art. In this regard, Mistretta cannot be combined with Glover et al. to substantiate an obviousness rejection. Further, given that the Examiner has admitted that Glover et al. alone fails to teach or suggest that called for in claims 43, 45, and 56-60, Applicant believes claims 45, 45, and 56-60 to be in condition for allowance.

Applicant appreciates the Examiner's indication that claims 64-66 are allowable.

Therefore, in light of at least the foregoing, Applicant respectfully believes that the present application is in condition for allowance. As a result, Applicant respectfully requests timely issuance of a Notice of Allowance for claims 36-71.

Applicant appreciates the Examiner's consideration of these Amendments and Remarks and cordially invites the Examiner to call the undersigned should the Examiner consider any matters unresolved.

Respectfully submitted,

J. Mark Wilkinson
Registration No. 48,865
Direct Dial 262.376.5016
jmw@zpspatents.com

Dated: 10/4/04

Attorney Docket No.: GEMS8081.209
P.O. ADDRESS:
Ziolkowski Patent Solutions Group, LLC.
14135 North Cedarburg Road
Mequon, WI 53097-1418
(262)-376-5170